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Read before the AMERICAN STATISTICAL ASSOCIATION, Jan. 25, 1889.

## STATISTICS OF MUNICIPAL FINANCE.

BY PROF. HENRY B. GARDNER.

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In any attempt to formulate comparative statistics showing the financial condition of our municipalities we are met at the outset by serious obstacles, and any statements based upon the face of the returns in auditors' or controllers' reports are apt to prove misleading. An obvious source of error in our judgment as to the relative financial transactions of various cities exists in the unnoted differences in the administrative jurisdictions. Thus, in Chicago, the territory of the city is divided into townships, which meet some kinds of local expenditure without the intervention of the city. In New Haven the care of the poor, and the maintenance of the roads and bridges, devolves upon the township and not upon the city; while the expense of schools is borne by a third body,—the school district. Doubtless, a careful examination would reveal like variations in many other municipalities. A knowledge of these facts is necessary for purposes of accurate comparison, but the knowledge is not always easily attainable, and a clue is seldom afforded in the financial reports.

Another obstacle lies in the methods of presenting the financial statement. Not only is there a total lack of uniformity, but the methods adopted are frequently so complex and misleading, clearness of presentation is so completely sacrificed to the exigencies of book-keeping, and the chance requirements of administrative organization and financial legislation, that it is difficult to obtain a satisfactory idea of the finances of a given city, aside from any attempt at comparison with other cities. The reports of the various

controllers and auditors vary widely in this respect,<sup>1</sup> but in no case, I believe it is safe to say, is there any clear and concise presentation of the facts necessary to a proper understanding of the financial situation,—a presentation, that is, which shows us what have been the amounts of the ordinary income and expenditure, with the sources of income and the purposes of expenditure clearly classified, and the relation of surplus or deficit existing between the two: the extraordinary income and expenditure, also specified as to source and purpose; what portion of expenditure has been to meet running expenses, and what for construction; how far reliance has been placed upon loans; whether loans have been used to cover current expenses; how far undertakings, such as gas works and water works, have been made to yield a profit, or what was the deficit, in their operation, which it has been necessary to supply.

The difficulties which present themselves in connection with these reports may be classified as follows:—

1. General want of classification, as exhibited in failure to distinguish properly between ordinary and extraordinary receipts and expenditures, and lack of clear statement as to sources of receipts and purposes of expenditure, particularly as to whether expenditure has been to meet running expenses or for new construction. This difficulty is of course increased by the differences in the administrative and financial organizations of the various municipalities. In Boston, for example, the duty of street cleaning belongs to the health department, while in Philadelphia it devolves upon the department of highways, bridges, and sewers, and in New York is the subject of a special department. It is a matter of importance from an economic point of view to know what portion of revenue comes from licenses, but receipts from this source are frequently scattered among the various departments of the administration. In the case of

<sup>1</sup> The Boston report is on the whole the most satisfactory. The presentation is clearest, and the great amount of detail renders possible the correction of error.

Boston receipts from licenses must be sought under "police" and "schools," as well as "liquor licenses." In Baltimore the street railway companies, in 1887, paid a franchise tax of \$134,167.27. In the report of the Registrar this entry is divided under the two heads, separated by other items,—“city passenger railway companies for park sinking fund,” and “city passenger railway companies for park board.” In the Controller’s report it is comprised under the headings “park board, for Druid Hill and Patterson Parks,” and “the railway companies for park sinking fund.” In many cases it is impossible, from the report itself, to remedy this confusion of classification.

2. The inclusion among the ordinary receipts and expenditures of items which do not properly belong there, either because they fall without the sphere of municipal finance altogether, or because they have to do with an essentially different class of transactions from the other items among which they are included. As an example of the first case take the inclusion among municipal receipts and expenditures of the revenue collected for, and paid over to, the state. Thus, in the report of the Auditor of Boston, for 1887–88, the receipts from taxes for 1887 are given as \$9,387,028.75; but of this sum \$833,805 belonged to the state, and really formed no part of the income of the city, which acted merely as the agent of the state. In New York, out of \$31,728,039.81, \$4,258,527.93 belonged to the state. In Baltimore the state taxes do not appear in the city accounts, and thus any comparison between these cities, based on a transcript of their financial reports, must be erroneous. The case is frequently the same with license taxes, of which the state demands a portion. There is no more reason for including state taxes among municipal receipts and expenditures than there is for including national taxes under the same head. Municipal receipts and expenditures should be confined to such transactions as have to do with strictly municipal matters.

As an example of the second case I would mention payments to and from the sinking funds. These are sometimes included among the ordinary receipts and expenditures. They represent however, an entirely different class of transactions. They are not really receipts and expenditures at all, in a strict sense.

A sinking fund is simply a reserve fund of the city, to be counted among the assets. A payment to the sinking fund should represent not an expense but a surplus of income over expense. A payment from the sinking fund is not a receipt but a draft on the reserve fund, which will appear in the diminished assets. Another instance of the same kind is that of trust funds, the gifts of outside parties, simply the administration of which is in the hands of the city. The receipts and expenditures on account of such funds should be noted, as they sometimes take the place of municipal receipts and expenditures, but they should be distinguished from the latter.

3. An error which sometimes leads to ludicrous results arises in connection with temporary loans in anticipation of taxes, when the transactions on account of both the borrowing and repayment are included among the other items of receipts and expenditures. Thus, in the Controller's report of the city of New York the receipts on account of the city treasury are stated as \$69,600,593.97, of which \$17,242,346.70 came from temporary loans in anticipation of taxes. The expenditures were \$67,900,425.42, of which \$18,295,600 was for payment of such loans, part of which had been incurred in former years. Receipts and expenditures should therefore be reduced by \$17,242,346.70, in order to present an accurate idea of the facts, only the balance of the transactions in revenue bonds appearing. In the case of New York the error arising from the inclusion of the two items of state taxes and revenue bonds would amount to between one fourth and one third of the total amount of apparent receipts,

or a sum nearly three times as much as the total receipts of Baltimore.

Errors from the causes already mentioned are, however, evident, and can, to a great extent, be avoided by a rearrangement of the items given in a Controller's report.

4. There is still another class of errors which it is more difficult to trace and correct. These arise from the method of keeping accounts adopted. It frequently happens that the expenditure of one department or fund, by a transfer, becomes the receipt of another department or fund. Thus if in making up the total of receipts and expenditures we simply take the sum of the individual items, some items will appear several times over, both as receipts and expenditures. The only way to avoid this error is to trace each item to its source, and in many instances the reports do not afford the data for so doing. The New York report affords an excellent example of confusion from this cause. The accounts are kept in two divisions: I. "The City Treasury;" II. "The Sinking Funds." Many of the receipts under the latter head, such as market rents, licenses, and railroad franchises, properly belong to municipal receipts. Other items, however, do not. Considerable amounts of the revenue bonds issued by the city were taken by the sinking funds, and the payments made when the bonds were taken, and the amounts received when they were paid off appear among the expenditures and receipts, helping to swell the total municipal income to over \$92,000,000 (about \$60 per capita!). Take another example. The "Sinking Funds" account is divided into two parts: I. "Sinking fund for the redemption of the city debt;" and II. "Sinking fund for the payment of interest on the city debt." The receipts under II amounted, in 1887, to \$3,212,348.21; the actual payments to \$146,409.61; and the balance of \$2,950,000 was transferred to I (debt redemption fund), appearing there again as a receipt. It would be easy to find numerous other illustrations in the same report and in the reports of almost every

other city. In the case of Baltimore the report of the Water Board shows transactions as follows : —

	DR.	CR.
By balance January, 1887, . . . . .		25,095.91
By amount received from water rents and other sources, . . . . .		745,445.96
By amount received from City Collector for water tax, . . . . .		50,421.20
To amount paid in warrants of the Water Board for interest on loans, . . . . .	472,630.00	
To salaries and other expenses, . . . . .	340,875.15	
To balance December 31, 1887, . . . . .	7,457.92	
	<hr/>	<hr/>
	\$820,963.07	\$820,963.07

In the Controller's report the transactions figure as follows : —

#### RECEIPTS.

Water tax (included in the amount received from the City Collector), . . . . .	50,421.20
From Water Board, from rents, etc., . . . . .	745,445.96
“ “ “ interest on water loans, . . . . .	472,630.00
Included in cash on hand, . . . . .	25,095.91
	<hr/>
	\$1,293,593.07

#### PAYMENTS.

For Water Board, . . . . .	813,505.15
For interest on water debt (included in interest on stock debt), . . . . .	472,630.00
Included in balance on hand, . . . . .	7,457.92
	<hr/>
	\$1,293,593.07

These transfers between different accounts render any use of the totals presented in the report unreliable.

The Registrar, in his report, distinguishes “Receipts — Actual Income,” from “Receipts — Not Income;” but the distinction is not made according to any principle which renders it valuable for economic or statistical purposes. The principle seems to be to include under the first head receipts not applied by law to some specific purpose. Thus the receipts from street railway franchises and from assessments for opening streets (which by law are applicable to

certain specified purposes only) are included under "Receipts — Not Income."

In the case of the water works accounts the "water tax" is included under "Receipts — Actual Income;" "water rents" under "Receipts — Not Income." All the expenditures on account of water works are included under "Disbursements — Not Expenses." What we should like to know, but cannot find, is the receipts from water works and the expenditure for running expenses, interest, and new construction.

Another source of error, sometimes of considerable importance, illustrated in the Baltimore report, is the failure to deduct discounts on taxes from receipts, and the inclusion of such discounts among the expenditures.

These illustrations, taken at random, reveal the character of the difficulties which appear, and which, through their constant repetition, render it almost impossible to obtain accurate comparative statistics. Professor Richard T. Ely, who has collected a great quantity of financial statistics, in his work on *Taxation in American States and Cities*, finds it constantly necessary to warn his readers against the inaccuracy of available statistics. So great is the inaccuracy indeed as to render them practically worthless.

Judging by the Controller's reports, the receipts of New York, in 1887, were \$92,138,426.09, while the receipts of Baltimore were \$8,446,439, a disproportion evidently ludicrous. As already said, it is impossible for an outsider to wholly avoid the errors to which he is liable. The only persons who can do it successfully are the financial officers of the cities. It is not supposed that any city will abandon that method of account keeping which is best suited to its peculiar financial and administrative requirements, but would it not be possible to present, in connection with the usual report, a statement based upon some uniform classification applicable to all cities, which should reveal the actual character and significance of the financial transactions in a



way easily comprehended by the ordinary citizen, and at the same time valuable for economic and statistical purposes? The same obstacles to the statistical investigation of municipal finances presented themselves in Europe, and were made the subject of discussion at several sessions of the International Congress of Statistics. As a result of these discussions a formula was adopted in 1878, in accordance with which cities were requested to make their financial returns to a representative of the Congress, who was to tabulate the results in an annual bulletin.

A general account of each city's financial organization and administrative jurisdiction was recognized as a necessary introduction to these returns, changes in organization and jurisdiction to be noted in the reports of successive years. The classification adopted embraces two general divisions: A, Statement of receipts and expenditures; B, Statement of financial condition (assets and liabilities). The bulletin for 1883 contains returns from twenty-seven cities, including Paris, Berlin, Moscow, and Vienna, tabulated with reference to the principal sources of income and purposes of expenditure, and the different kinds of assets and liabilities, with supplementary notices of minor items peculiar to each city.

The majority of the cities accompany their statistical returns with notes explaining the various items in more or less detail. In the instructions accompanying the formulas prepared by the Congress, special emphasis is laid on the necessity of excluding "les sommes transitoires" which result merely from the method of keeping the accounts of the different branches of the administration. Sums collected for a third party, such as the state, were included under this head.

Expenditures, however, for third parties (such as the poor belonging to another town), and the repayment afterward received, should be included under expenditures and receipts. There was considerable discussion as to whether total receipts and expenditures or only the net result, whether surplus or

deficit, of such undertakings as water works and gas works should be included. It was finally decided that in the case of establishments which fall without the sphere of municipal administration, strictly speaking (banks, railroads, domains, mines, theatres), and of undertakings which have a commercial character, only the net profits or deficit should be counted. Municipalities were, however, requested to return separately the gross amount of their transactions in these directions, and this, on the whole, seems to be the most satisfactory method. It was also held that property having no salable value should not be included in the return of assets. This would, of course, exclude such public property as streets and bridges, while with regard to such property as museums and art galleries it was recommended that it be mentioned and described, but not valued.

There would be evident advantages in adopting for our American cities the same plan, which is already being carried out in Europe.

There are, however, certain general and characteristic differences between our cities and the cities of the old world, and it would perhaps be possible to prepare a formula better suited to our own needs, while at the same time affording a satisfactory basis of comparison with the cities reported in the "Bulletin Annuel," published by Körösi.

It is for this purpose that the following scheme is suggested:—

## RECEIPTS.

### I. ORDINARY MUNICIPAL REVENUE.

#### BALANCE ON HAND.

#### TAXES.

- a. General property tax.
- b. Poll tax.
- c. Liquor licenses.
- d. Other licenses.
- e. Other taxes (specify).

**SPECIAL ASSESSMENTS.**

- a. Streets.
- b. Sidewalks.
- c. Sewers.
- d. Other (specify).

**MARKETS.****WHARVES.****RENTS.**

**FRANCHISES** (specify general sources, and amounts from each).

**PROFITS OF COMMERCIAL UNDERTAKINGS**, *i. e.*, income after deducting running expenses and interest charge (specifying sources and amount from each).

**INCOME FROM PRODUCTIVE INVESTMENTS** (specifying sources and amount from each).

**CURRENT INTEREST.**

**INCOME FROM PUBLIC INSTITUTIONS** (correctional and charitable).

**SUBSIDIES** (from state or other political body; specifying source and amount).

**OTHER SOURCES OF INCOME**, which may be important, except income from loans, sinking funds, and foundations, or funds of which the city has only the administration.

**MISCELLANEOUS RECEIPTS.****TOTAL.****II. RECEIPTS FROM LOANS.**

- a. Temporary.
- b. Bonded.

**III. RECEIPTS FROM FUNDS AND FOUNDATIONS**, of which the city has the administration (specify).**IV. RECEIPTS FROM SINKING FUNDS**, for payment of debt or other purposes (specify).

**EXPENDITURES.****I. EXPENSES OF MUNICIPAL MANAGEMENT AND CONSTRUCTION.****POLICE.**

- a. Current expenses.
- b. Construction.

**STREETS AND BRIDGES (widening sidewalks).**

- a. Cleaning and watering.
- b. Maintenance.
- c. Damages paid.
- d. Construction.

**PUBLIC LIGHTING.****FIRE DEPARTMENT.**

- a. Current expenses.
- b. Construction.

**SEWERS.**

- a. Current expenses.
- b. Construction.

**SCHOOLS.**

- a. Current expenses.
- b. Construction.

**PUBLIC ASSISTANCE AND INSTITUTIONS.**

- a. Outdoor relief.
- b. Institutions (including correctional).

**DEFICIT IN COMMERCIAL ENTERPRISES, *i. e.*, amount necessary to supply from general revenue to meet running expenses and interest charges (specify enterprise and amount).**

**MARKETS.**

- a. Current expenses.
- b. Construction.

**WHARVES.**

- a. Current expenses.
- b. Construction.

**HEALTH DEPARTMENT.**

**PUBLIC BUILDINGS.**

- a. Current expenses.
- b. Construction.

**PARKS.**

- a. Current expenses.
- b. Construction.

**ACQUISITION AND CONSTRUCTION FOR OTHER PURPOSES (such as commercial enterprises; specify purpose and amount).****INTEREST PAYMENT (deduct interest already counted as a charge upon commercial enterprises).**

- a. Bonded debt.
- b. Temporary debt.

**EXPENDITURES FOR OTHER IMPORTANT PURPOSES (specify purpose and amount).****MISCELLANEOUS EXPENDITURES.****TOTAL.****II. DEBT PAYMENT.**

- a. Bonded.
- b. Temporary.

**III. EXPENDITURES IN CONNECTION WITH FUNDS AND FOUNDATIONS, of which the city has the administration (specify).****IV. PAYMENTS TO SINKING FUNDS.****BALANCE ON HAND.**

Statement of gross transactions on account of commercial enterprises.

*Sinking Fund Statement.*

Amount of funds at beginning of year, including cash balances.

**RECEIPTS from —**

- Interest on investments.
- Investments paid off.
- City treasury.
- Other sources (specify).

## EXPENDITURES for —

Payments to city treasury.

Debt redeemed.

Investments.

Other purposes (specify).

Amount of funds at end of year, including cash balances.

## ASSETS AND LIABILITIES.

## ASSETS.

## I. AVAILABLE.

Cash in treasury.

Sinking funds.

Salable lands and buildings.

Taxes, assessments, etc., in arrears.

Other debts due.

Other available assets (specify).

## II. NOT AVAILABLE.

Water works.

Gas works.

School houses.

Public buildings.

Parks.

Other assets not available (specify).

## LIABILITIES.

Debt.

a. Bonded.

b. Temporary.

Outstanding claims.

Other liabilities (specify).

The above scheme needs a word of comment and explanation. All receipts should be included, whether or not legally applicable to some special purpose or fund. In the case of such legally required application the corresponding expenditure should of course be included.

Great care should be taken to exclude all receipts and expenditures arising merely by transfers between different accounts; no item should be counted more than once as receipt or expenditure.

All receipts or expenditures of a given kind (licenses, for example) should be collected under the specified heading, though they may be credited or charged to different departments of the administration. This statement needs some modification, however. A conflict may exist between the different headings. The markets or waterworks may derive a portion of their regular income from rents, or permits analogous to licenses. In such a case the disputed item should be included under the more specific heading, *e. g.*, market rents should be included under "Markets." It is the same with regard to expenditures, *e. g.*, the expenditure for building a police station should be included under "Police," and not under "Public Buildings," which latter would include only such items as had not been included under more specific headings. "Taxes" and "Assessments" should include interest paid upon arrears, but all refunds, discounts, and taxes collected for the state should be deducted. The term "License" should be interpreted broadly, including such items as building and surveyors' permits.

Payments by such corporations as street car companies, gas companies, and ferry companies, should be included under "Franchises," whatever may be the technical term for the payment. In estimating the income or deficit of commercial enterprises, comparison should be made between receipts from operation and running expenses, including interest on the debt.

Salaries should be included in the expenditures under the different headings. In the case of some cities, however, on account of the character of the administrative organization, it may not always be possible to apportion salary payments in accordance with the above plan. In such instances the amount paid in salaries, and the general duties of the officers

to whom payment is made, should be stated. Payments for quarantine and small-pox hospitals, scavenger work, and removal of garbage should be included under "Health Department."

Any peculiarities of administrative organization not made evident in the accompanying statement, and affecting the character and scope of municipal finance, should be noted.

If, in connection with their regular reports, controllers and auditors would present a statement in accordance with the above plan, it is believed that it would afford information valuable both for general and scientific purposes. Even if it were impossible to prepare a statement with the detail proposed, a presentation classified according to the general headings given would be of value as affording a more satisfactory basis of comparison between different cities than we now have.

It is believed that a statement compiled in accordance with this plan would afford a clear exposition of a city's financial transactions and condition, and would yield valuable material for economic and statistical study. Nor would it impose a great burden upon auditors and controllers. It is very desirable that the statements should be made as much in detail as possible, but valuable results would follow if only the main headings were observed. The most important point, and that requiring the most care, would be to avoid the errors already referred to. In the receipts from taxes, taxes paid over to the state or other political body, refunds, and discounts should be deducted. Care should be taken to collect, under a given head, all the items which belong there, though, as is frequently the case in the customary method of presenting reports, they may be scattered through several departments. The interest charge on any debt incurred in connection with any commercial enterprise should be counted with the running expenses. If it is not so counted the fact should be noted.

In connection with special funds and foundations their



character, amount, and purpose should be stated. In general the greatest care should be taken to avoid including receipts and expenditures which arise merely by transfers between accounts. No item should appear more than once, either as a receipt or expenditure. Only in this way can the statement present an accurate view of actual transactions. It is also important to note any peculiarity of condition or administration which may affect the character or amount of financial transactions.

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### NEWSHOLME'S VITAL STATISTICS.

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*The Elements of Vital Statistics.* By Arthur Newsholme, M. D. London: Swan Sonnenschein & Co. xxiv, 326 pp. 8vo.

This is essentially a manual for the use of English sanitary officials, compiled from the writings of Drs. Farr and Ogle, in the reports of the Registrar-General, with illustrations of methods, of tabulations, and of deducing conclusions for preventive medicine, drawn from the English Registration reports, and especially from those of Brighton, of which place Dr. Newsholme is the Medical Officer of Health. The bibliography given includes English authorities only, with the exception of two French works by Quetelet and Gavarret, the last author being given as Gavanet, and the title of his book erroneously quoted. As the author states that the work is prepared especially for the use of junior Medical Officers of Health, and of those preparing for examination for certificates of proficiency in sanitary matters, this limitation of scope is quite proper, and the material available for its preparation is ample and of the best quality. His claim that there is no country in the world which possesses so rich a mine of information as England, in the field of vital statistics, is certainly well founded, and every year adds in an increasing ratio to the value and importance of the records of the Registrar-General's office.